# SPK-DVF5

# SERVICE MANUAL

*AEP Model*

**Ver 1.0 2003.02**

## SPECIFICATIONS

**Material**
Plastic (PC, ABS), glass
**Waterproof**
Waterproof gasket, buckles
**Bult-in microphone**
Stereo
**Dimension**
Approx. 169 × 174 × 261 mm (w / h / d)
(6 3/4 × 6 7/8 × 10 3/8 inches)
**Mass**
Approx. 990 g (2 lb 3 oz) (only sports pack)
**Supplied accessories**
Shoulder strap (1)
Camera mounting shoe (2)
Tripod screw plate (1, pre-installed on the camera mounting shoe)
Reflex prevention ring Large (1), Small (1)
Grease (1)
Anti-fogging lens solution (1)
Operating Instructions (1)

Design and specifications subject to change without notice.

## SPORTS PACK

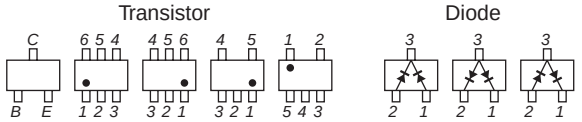
SONY®

# SECTION 1
# PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

## THIS NOTE IS COMMON FOR WIRING BOARDS AND SCHEMATIC DIAGRAMS
## (In addition to this, the necessary note is printed in each block)

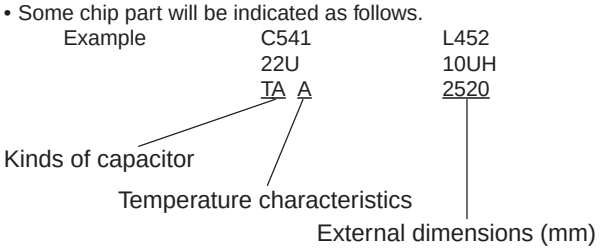
**(For printed wiring boards)**

- ▒▒▒▒: Pattern from the side which enables seeing.
  (The other layers' patterns are not indicated.)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are few cases that the part printed on diagram isn't mounted in this model.
- Chip parts.




**(For schematic diagrams)**

- All capacitors are in μF unless otherwise noted. pF : μμF. 50V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10W unless otherwise noted.
  kΩ=1000Ω, MΩ=1000kΩ.
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.



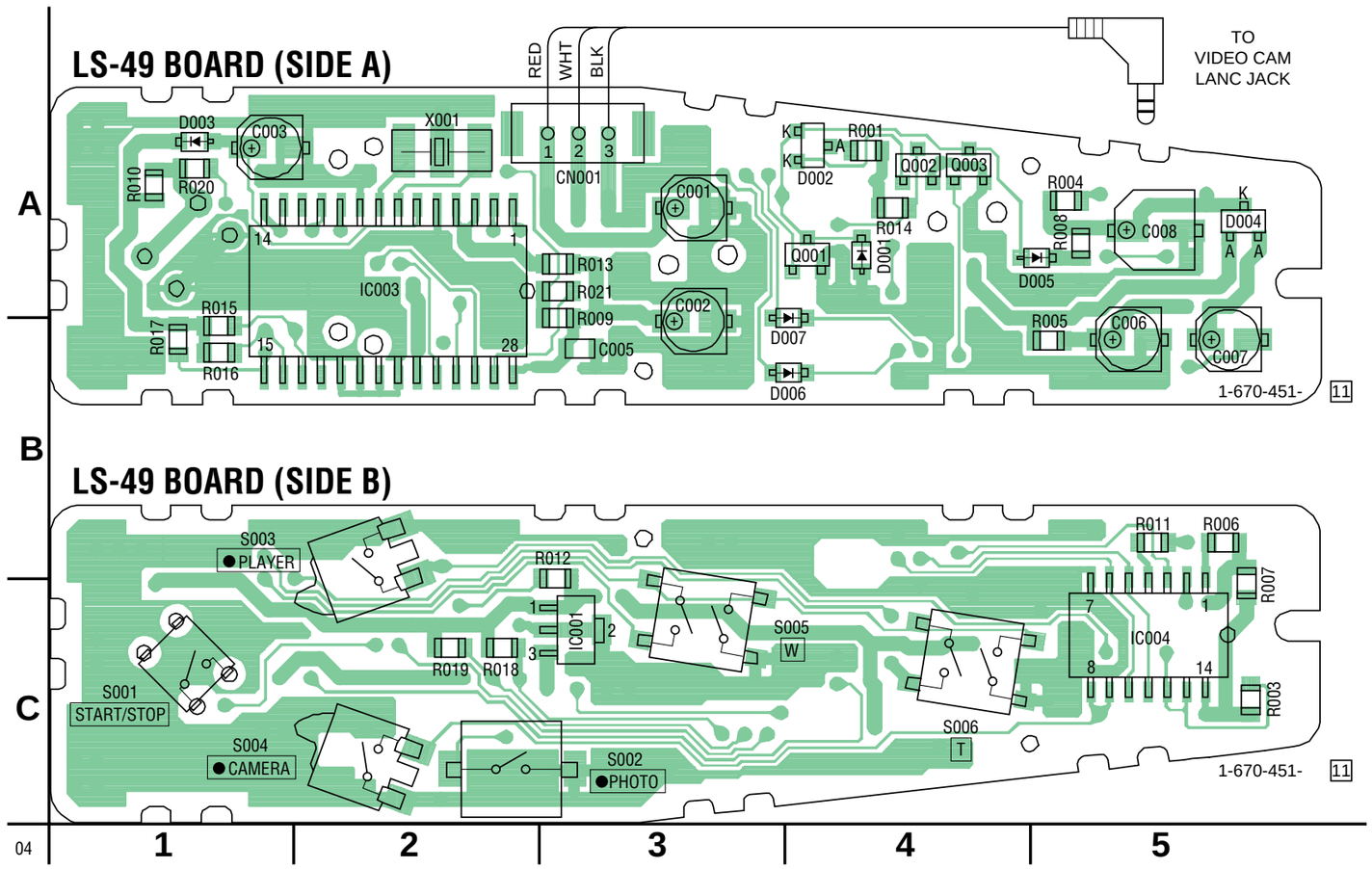

- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used.
  In such cases, the unused circuits may be indicated.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$
- ▭ : panel designation
- **B +** : B+ Line
- ⇨ : IN/OUT direction of (+,–) B LINE.

| | |
|---|---|
| **Note :** | The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified. |

**(Measuring conditions voltage and waveform)**

- Power voltage is dc 6 V and fed with regulated dc power supply from CN001 pin ①.
  (VOM of DC 10 MΩ input impedance is used.).
- Voltage values change depending upon input impedance of VOM used.)

## LS-49 (LANC CONTROL) PRINTED WIRING BOARD




### LS-49 BOARD

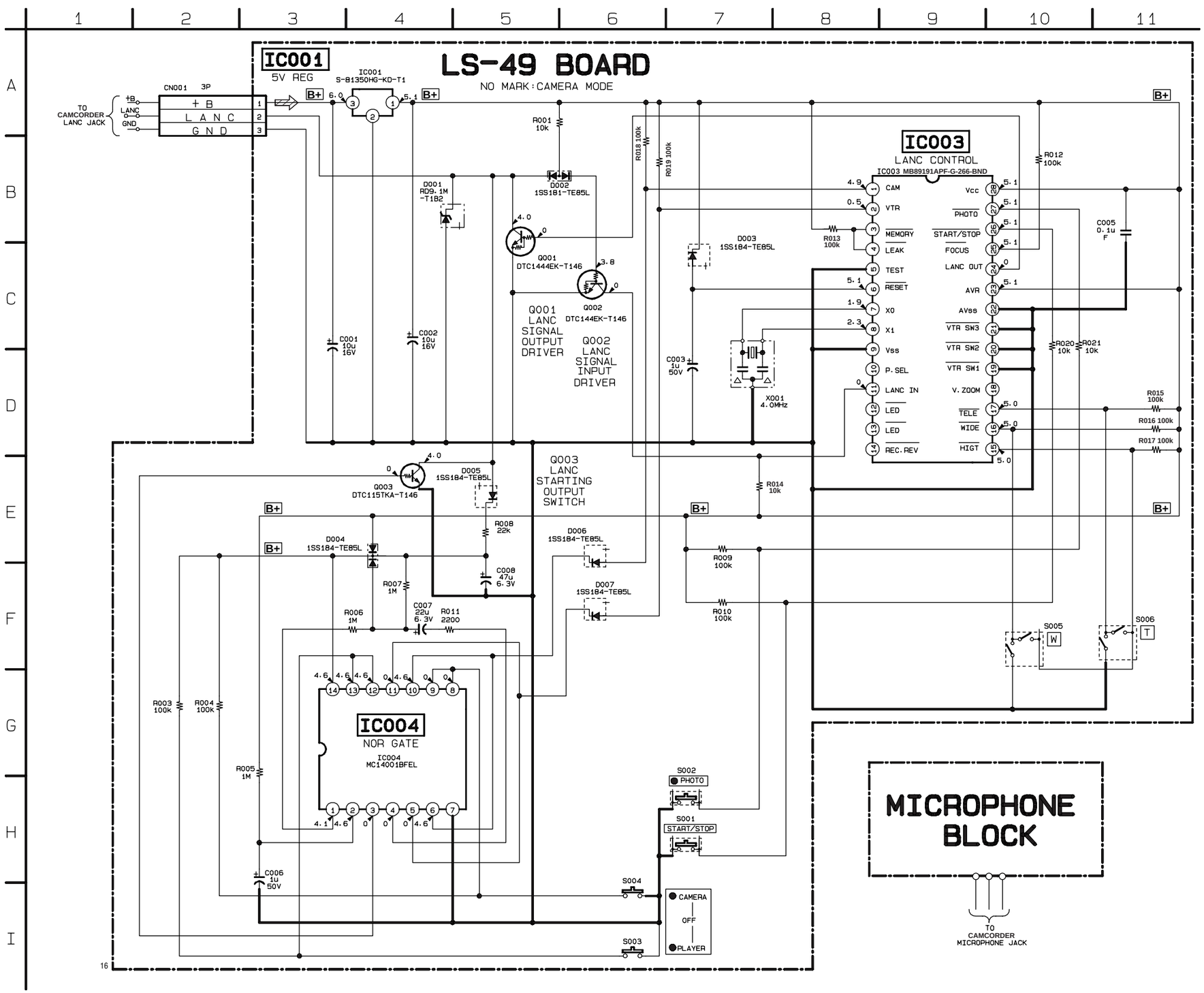
| | | | |
|---|---|---|---|
| C001 | A-3 | R004 | A-5 |
| C002 | A-3 | R005 | B-5 |
| C003 | A-1 | R006 | B-5 |
| C005 | B-3 | R007 | C-5 |
| C006 | B-5 | R008 | A-5 |
| C007 | B-5 | R009 | B-3 |
| C008 | A-5 | R010 | A-1 |
| | | R011 | B-5 |
| CN001 | A-3 | R012 | C-3 |
| | | R013 | A-3 |
| D001 | A-4 | R014 | A-4 |
| D002 | A-4 | R015 | B-1 |
| D003 | A-1 | R016 | B-1 |
| D004 | A-5 | R017 | B-1 |
| D005 | A-5 | R018 | C-2 |
| D006 | B-4 | R019 | C-2 |
| D007 | B-4 | R020 | A-1 |
| | | R021 | A-3 |
| IC001 | A-2 | | |
| IC003 | C-3 | S001 | C-1 |
| IC004 | C-5 | S002 | C-2 |
| | | S003 | B-2 |
| Q001 | A-4 | S004 | C-2 |
| Q002 | A-4 | S005 | C-3 |
| Q003 | A-4 | S006 | C-4 |
| R001 | A-4 | X001 | A-2 |
| R003 | C-5 | | |

**For printed wiring board**

- Chip parts
  Transistor

There are a few cases that the part printed on this diagram isn't mounted in this model.

# LS-49 (LANC CONTROL)



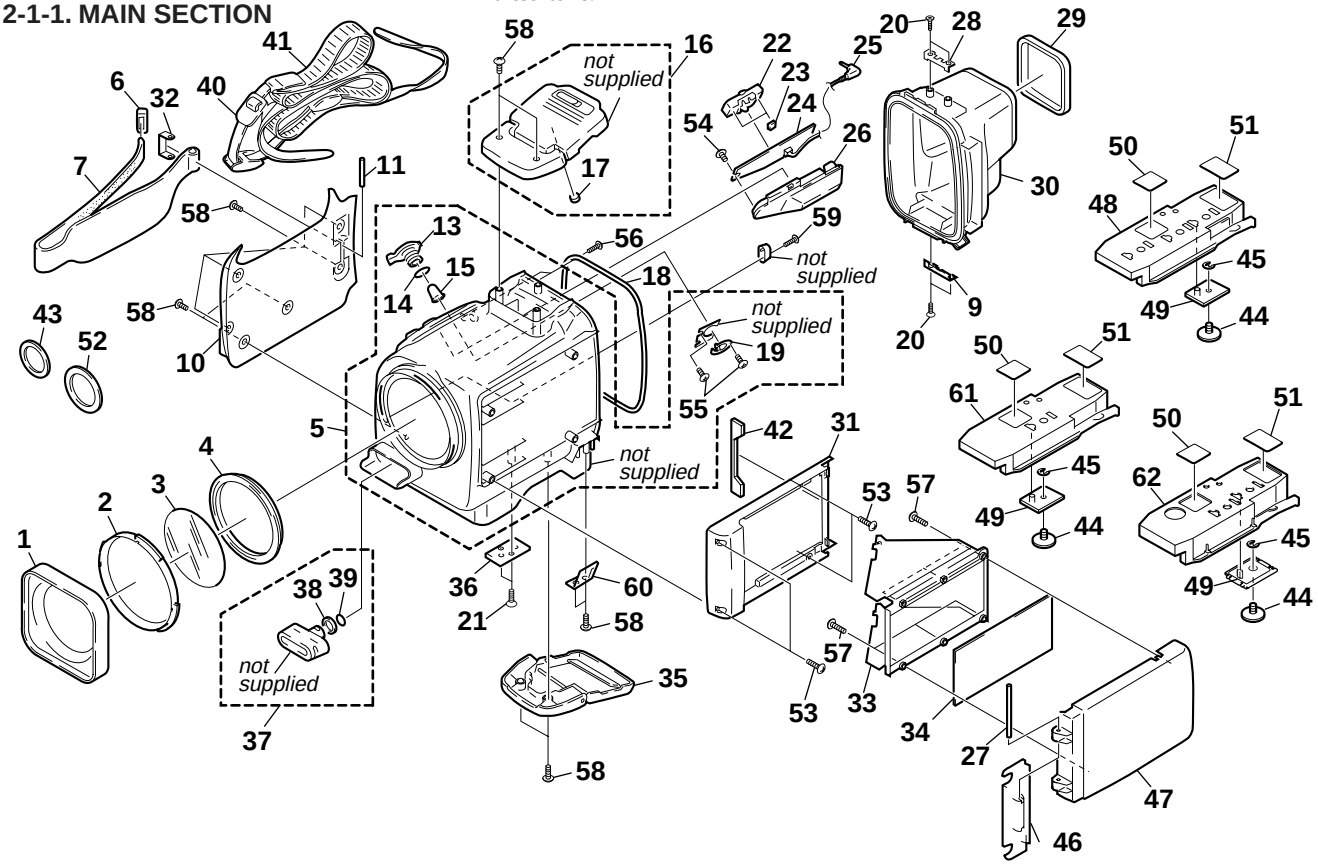
# SECTION 2
# REPAIR PARTS LIST

## 2-1. EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

### 2-1-1. MAIN SECTION




| Ref. No. | Part No. | Description |
|---|---|---|
| 1 | 3-976-866-01 | COVER, LENS WINDOW |
| 2 | 3-976-868-01 | RETAINER, LENS WINDOW |
| 3 | 3-976-867-01 | WINDOW, LENS |
| 4 | 3-976-869-01 | PACKING, LENS WINDOW |
| 5 | X-3949-617-1 | CASE ASSY, FRONT |
| 6 | 3-960-765-01 | RING, GRIP BELT |
| 7 | 3-960-764-01 | BELT, GRIP |
| 9 | 3-978-631-01 | PLATE (LOWER), BUCKLE LOCK |
| 10 | 3-976-870-01 | COVER, GRIP |
| 11 | 3-952-402-01 | SHAFT, STOPPER, GRIP BELT |
| 13 | 3-952-029-01 | LEVER, STAND-BY |
| 14 | 3-951-807-11 | RING, O |
| * 15 | 3-952-030-01 | PUSH BUTTON, REC |
| 16 | A-7095-311-A | BUCKLE (UPPER) BLOCK ASSY |
| 17 | 3-073-881-01 | CAP (RED), AIR PUNCHING |
| 18 | 3-976-873-01 | PACKING, CABINET |
| * 19 | 3-970-213-01 | PLATE, SPRING |
| 20 | 3-951-813-11 | SCREW (2X6) (TYPE 2), +K |
| 21 | 3-951-814-01 | SCREW (2.6X10) (TYPE 2), +K |
| * 22 | 3-050-144-01 | HOLDER, TW |
| 23 | 3-979-245-01 | BUTTON, T/W |
| 24 | A-7073-569-A | LS-49 BOARD, COMPLETE |
| 25 | 1-696-933-31 | CORD, CONNECTION |
| * 26 | 3-960-763-11 | LID, CONTROL BOX |
| 27 | 3-978-629-01 | PIN, MIRROR HINGE |
| 28 | 3-976-834-01 | PLATE (UPPER), BUCKLE LOCK |
| 29 | 3-050-148-01 | EYE CUP |
| 30 | 3-050-147-01 | CASE, REAR |
| 31 | 3-976-848-11 | BASE, MIRROR |
| 32 | 3-979-464-01 | BRACKET (B), SHOULDER BELT |

| Ref. No. | Part No. | Description |
|---|---|---|
| 33 | 3-976-846-01 | HOOD, MIRROR |
| 34 | 3-976-847-01 | MIRROR |
| 35 | A-7095-312-A | BUCKLE (LOWER) BLOCK ASSY |
| 36 | 2-115-831-01 | SCREW |
| 37 | A-6776-297-A | MICROPHONE BLOCK ASSY |
| 38 | 3-959-461-01 | PACKING, MICROPHONE |
| 39 | 3-959-422-01 | RING (P10), O |
| 40 | 3-953-086-01 | BRACKET |
| 41 | 3-941-465-01 | BELT, STRAP |
| 42 | 3-978-635-01 | STOPPER, HOOD |
| 43 | 3-061-059-01 | RING (B) (M30), PREVENTION |
| * 44 | 3-970-217-01 | SCREW, CAMERA FITTING |
| 45 | 2-391-512-00 | RING (5), RETAINING, E TYPE |
| 46 | 3-978-527-11 | SLIDER, MIRROR |
| 47 | 3-978-526-41 | COVER, MIRROR |
| 48 | 3-050-146-01 | BASE (A) |
| 49 | 3-970-221-02 | BASE, SLIDE |
| 50 | 3-055-228-01 | CUSHION (A) (SMALL), BASE |
| 51 | 3-976-858-01 | CUSHION (B), BASE |
| 52 | 3-061-058-01 | RING (B) (M37), PREVENTION |
| 53 | 3-951-811-01 | SCREW (2.6X6) (TYPE 2), +B |
| 54 | 7-685-104-21 | SCREW +P2X6 TYPE2 |
| 55 | 7-685-102-14 | SCREW +P 2X4 TYPE2 SLIT |
| 56 | 7-685-533-14 | SCREW +BTP 2.6X6 TYPE2 N-S |
| 57 | 3-051-561-01 | TAPPING +B2X6 |
| 58 | 3-051-562-01 | TAPPING +B2.6 TYPE2 |
| 59 | 7-685-852-04 | +BVTT 2X5 (S) |
| 60 | 3-952-054-01 | BRAKET, SHOULDER |
| * 61 | 3-076-926-01 | BASE (C) |
| 62 | 3-082-303-01 | BASE (D) |

## 2-2. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| | A-7073-569-A | LS-49 BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C001 | 1-124-779-00 | ELECT CHIP | 10uF | 20% | 16V |
| C002 | 1-124-779-00 | ELECT CHIP | 10uF | 20% | 16V |
| C003 | 1-126-193-11 | ELECT | 1uF | 20% | 50V |
| C005 | 1-163-038-91 | CERAMIC CHIP | 0.1uF | | 25V |
| C006 | 1-126-193-11 | ELECT | 1uF | 20% | 50V |
| C007 | 1-124-778-00 | ELECT CHIP | 22uF | 20% | 6.3V |
| C008 | 1-126-205-11 | ELECT CHIP | 47uF | 20% | 6.3V |
| | | < CONNECTOR > | | | |
| * CN001 | 1-564-705-11 | PIN, CONNECTOR (SMALL TYPE) 3P | | | |
| | | < DIODE > | | | |
| D001 | 8-719-106-47 | DIODE RD9.1M-T1B2 | | | |
| D002 | 8-719-820-05 | DIODE 1SS181-TE85L | | | |
| D003 | 8-719-801-78 | DIODE 1SS184-TE85L | | | |
| D004 | 8-719-801-78 | DIODE 1SS184-TE85L | | | |
| D005 | 8-719-801-78 | DIODE 1SS184-TE85L | | | |
| D006 | 8-719-801-78 | DIODE 1SS184-TE85L | | | |
| D007 | 8-719-801-78 | DIODE 1SS184-TE85L | | | |
| | | < IC > | | | |
| IC001 | 8-759-512-69 | IC S-81350HG-KD-T1 | | | |
| | | < TRANSISTOR > | | | |
| Q001 | 1-801-806-11 | TRANSISTOR | DTC144EK-T146 | | |
| Q002 | 1-801-806-11 | TRANSISTOR | DTC144EK-T146 | | |
| Q003 | 8-729-027-48 | TRANSISTOR | DTC115TKA-T146 | | |
| | | < RESISTOR > | | | |
| R001 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R003 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R004 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R005 | 1-216-121-11 | RES-CHIP | 1M | 5% | 1/10W |
| R006 | 1-216-121-11 | RES-CHIP | 1M | 5% | 1/10W |
| R007 | 1-216-121-11 | RES-CHIP | 1M | 5% | 1/10W |
| R008 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R009 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R010 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R011 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R012 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R013 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R014 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R015 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R016 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R017 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R018 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R019 | 1-216-097-11 | RES-CHIP | 100K | 5% | 1/10W |
| R020 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| R021 | 1-216-073-91 | RES-CHIP | 10K | 5% | 1/10W |
| | | < SWITCH > | | | |
| S001 | 1-572-683-21 | SWITCH, KEY BOARD (START/STOP) | | | |
| S002 | 1-692-838-21 | SWITCH, TACTILE (RUBBER) (PHOTO) | | | |
| S003 | 1-572-688-11 | SWITCH, PUSH (1 KEY) (PLAYER) | | | |
| S004 | 1-572-288-21 | SWITCH, PUSH (CAMERA) | | | |
| S005 | 1-692-247-11 | SWITCH, TACTIL (2 CLICK) (W) | | | |
| S006 | 1-692-247-11 | SWITCH, TACTIL (2 CLICK) (T) | | | |
| | | < VIBRATOR > | | | |
| X001 | 1-579-902-11 | VIBRATOR, CERAMIC 4MHz | | | |

| | | |
|---|---|---|
| | | ACCESSORIES |
| | | ********** |
| | 2-391-512-00 | RING (5), RETAINING, E TYPE |
| | 3-050-146-01 | BASE (A) |
| | 3-055-228-01 | CUSHION (A) (SMALL), BASE |
| | 3-061-058-01 | RING (B) (M37), PREVENTION |
| | 3-061-059-01 | RING (B) (M30), PREVENTION |
| | 3-071-370-01 | GREASE (BLUE) |
| | 3-076-926-01 | BASE (C) |
| | 3-082-301-11 | MANUAL, INSTRUCTION (ENGLISH/FRENCH/GERMAN/SPANISH) |
| | 3-082-301-21 | MANUAL, INSTRUCTION (PORTUGUESE/SWEDISH/ITALIAN/DUTCH) |
| | 3-082-301-31 | MANUAL, INSTRUCTION (RUSSIAN/ARABIC/CHINESE/KOREAN) |
| | 3-082-303-01 | BASE (D) |
| | 3-941-465-01 | BELT, STRAP |
| | 3-953-086-01 | BRACKET |
| * | 3-970-217-01 | SCREW, CAMERA FITTING |
| | 3-970-221-02 | BASE, SLIDE |
| | 3-976-858-01 | CUSHION (B), BASE |



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# Revision History

| Ver. | Date | History | Contents | S.M. Rev. issued |
|---|---|---|---|---|
| 1.0 | 2002.02 | Official Release | — | — |
| | | | | |